

Appl. No. 10/711,567
Reply to Office action of December 17, 2007

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Amendments to the Claims:

The listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

- 5 1 (currently amended): A method for manufacturing a ternary nitride-based buffer layer of a nitride-based light-emitting device, comprising the steps of:
- providing a substrate;
- introducing a first reaction source comprising a first group III element into a chamber at a first temperature, ~~the melting point of the first group III~~
- 10 ~~element being lower than the first temperature~~, wherein the first group III element is deposited on the substrate; and
- introducing a second reaction source comprising a second group III element and a third reaction source comprising ~~[[a]] nitrogen element~~ into the chamber at a second temperature for forming a ternary nitride-based
- 15 buffer layer with the first group III element on the substrate, where the first temperature is different from the second temperature, ~~wherein the second temperature is not lower than the melting point of the first group III element.~~
- 20 2 (original): The method of claim 1, wherein the substrate comprises at least a material selected from the group consisting of sapphire, GaN, AlN, SiC, GaAs, GaP, Si, ZnO, MgO, MgAl₂O₄, glass, and the like.
- 3 (original): The method of claim 1, wherein the first temperature is 500°C or above.
- 25 4 (original): The method of claim 1, wherein the second temperature is 700°C or above.
- 5 (original): The method of claim 1, wherein the first group III element comprises at
- 30 least a material selected from the group consisting of Al, Ga, In, and the like.

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- 6 (original): The method of claim 1, wherein the second group III element comprises at least a material selected from the group consisting of Al, Ga, In, and the like.
- 5 7 (original): The method of claim 1, wherein the ternary nitride-based buffer layer thickness is between 1nm and 500nm.
- 8 (original): The method of claim 1, wherein the ternary nitride-based buffer layer comprises at least a material selected from the group consisting of InGaN,
10 AlGaIn, InAlN, and the like.
- 9-19 (cancelled).
- 15 20 (new): The method of claim 1, wherein the melting point of the first group III element is lower than the first temperature.
- 21 (new): The method of claim 1, wherein the second temperature is not lower than the melting point of the first group III element.
- 20 22 (new): A method for manufacturing a ternary nitride-based buffer layer of a nitride-based light-emitting device, comprising the steps of:
providing a substrate;
introducing a first reaction source comprising a first group III element into a chamber, wherein the first group III element is deposited on the
25 substrate; and
subsequent to introducing the first reaction source into the chamber,
introducing a second reaction source comprising a second group III element and a third reaction source comprising nitrogen into the chamber to react with the first group III element on the substrate for forming a
30 ternary nitride-based buffer layer.

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23 (new): The method of claim 22, wherein the temperature of the step for introducing
the first reaction source into the chamber is different from the temperature of the
step for introducing the second reaction source and the third reaction source into
5 the chamber.

24 (new): The method of claim 23, wherein the melting point of the first group III
element is lower than the temperature of introducing the first reaction source
into the chamber.

10 25 (new): The method of claim 23, wherein the temperature of introducing the second
reaction source and the third reaction source into the chamber is not lower than
the melting point of the first group III element.